ROBERT G. ATKINS

AGRICULTURAL COMMISSIONER/ SEALER OF WEIGHTS AND MEASURES

County of San Diego

DEPARTMENT OF AGRICULTURE, WEIGHTS AND MEASURES
5555 Overland Avenue, Suite 3101, San Diego, CA 92123-1256
http://www.sdcawm.org

AGRICULTURE
(858) 694-2739
FAX (858) 495-5012

WEIGHTS & MEASURES
(858) 694-2778
FAX (858) 505-6484

COUNTY VETERINARIAN
(858) 694-2838
FAX (858) 571-4268

SAN MARCOS OFFICE
(760) 752-4700
FAX (760) 752-4703

February 17, 2009

CLARIFICATION OF BEE PROTECTION STATEMENTS RELATED TO THRIP CONTROL ON AVOCADOS IN SAN DIEGO COUNTY

During 2007 and 2008, we held meetings with industry and California Department of Pesticide Regulation (DPR) to try to answer questions about the use of pesticides toxic to bees. When DPR released ENF 08-28 in response to these questions in October 2008, industry members contacted us asking for a plain English interpretation based on actual product labels. This product by product guide has been reviewed by DPR for accuracy.

Reminder: Notification requirements apply to all applications of pesticides toxic to bees. For more information, see 3 CCR 6650 or call your pesticide inspector at 858-694-8980.

1. **Veratran D**
   Veratran D (EPA Reg. No.39834-1) is not especially toxic to bees. The label does not contain a bee protection statement so it can be applied at any time.

2. **Delegate WG and Lannate SP**
   Delegate (EPA Reg. No. 62719-541) and Lannate (EPA Reg. No. 352-342) display only direct toxicity. These labels state, "This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area."

   Any bees physically present in the treatment area for any reason prohibits use. Given the likelihood of bees being present in a blooming avocado grove during the day, this *nearly* eliminates the possibility of making treatments during the day when temperatures are greater than or equal to (≥) 55º F.

   When can these products be used?
   - These products may be applied to crops that are blooming or not, as long as bees are not physically present or visiting the treatment area for any reason, such as foraging, a water supply or transit.
   - They may be applied to crops, blooming or not, if started one hour after sunset and completed 2 hours before sunrise.
   - They may be applied when the temperature will remain below 55º F. during the entire application.

3. Success

Success (EPA Reg. No. 62719-292) demonstrates residual toxicity for a limited time. The label states, "This product is toxic to bees exposed to treatment for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. The 3 hour limitation does not apply if the applicator operates in a state with a formal state-approved bee protection program, and the applicator follows all applicable requirements of the state-approved program designed to ensure that managed bees are not present in the treatment area during this time period."

Any bees physically present in the treatment area for any reason prohibits use. Given the likelihood of bees being present in a blooming avocado grove during the day, this *nearly* eliminates the possibility of making treatments during the day when temperatures are $\geq$ 55º F.

When can this product be used?

- This product may be applied to plants that are not blooming, pollen-shedding or nectar-producing as long as bees are not visiting the treatment area for any reason, such as a water supply or transit.
- It may be applied to plants (blooming, pollen-shedding, nectar-producing, or not) if started one hour after sunset and completed 2 hours before sunrise, when notification has been made to beekeepers with apiaries within one mile per 3 CCR 6654. Note: Notification requirements apply to all applications of pesticides toxic to bees.
- It may be applied to plants that are blooming, pollen-shedding or nectar-producing if the temperature is below 55º F. during the application and for 3 hours afterwards.

4. Entrust

Entrust (EPA Reg. No. 62719-282) demonstrates residual toxicity for a limited time. The label states, "This product is toxic to bees exposed to treatment for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period."

When can this product be used?

- This product may be applied to plants that are not blooming, pollen-shedding or nectar-producing as long as bees are not visiting the treatment area for any reason, such as a water supply or transit.
- It may be applied to plants (blooming, pollen-shedding, nectar-producing or not) if started one hour after sunset and completed 5 hours before sunrise. (The 5 hours comes from 3 hours of toxicity that must elapse 2 hours before sunrise.)
  - Ex.: Jan. 1, 2009, sunrise 6:51 a.m., sunset 4:55 p.m. Begin application 6 p.m. and finish by 1:51 a.m. Five hours later is 6:51 a.m. and label compliance is met.
  - Ex.: Mar. 1, 2009, sunrise 6:16 a.m., sunset 5:46 p.m. Begin application 6:46 p.m. finish by 1:16 p.m. Five hours later is 6:16 a.m. and label compliance is met.
- It may be applied to plants that are blooming, pollen-shedding or nectar-producing, if the temperature is below 55º F. during the application *and the temperature must remain below 55ºF for 3 hours afterwards*. Residues typically remain toxic to bees *at least twice as long* when temperatures are unusually low or on nights when dew is present, according to the Pacific Northwest Extension publication, "How to Reduce Bee Poisoning from Pesticide," (PNW 591, December 2006 edition).

5. Abamectin Products

Agri-Mek 0.15 EC (EPA Reg. No. 100-898), Epi-Mek 0.15EC (EPA Reg. No. 100-1154) and Abba (EPA Reg. No. 72167-43-66222) display direct and residual toxicity. These products' labels state, "This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area."

When can these products be used?

- Applications may be made to crops, blooming or not, if they begin one hour after sunset and are completed 10 hours before sunrise. (The 10 hours comes from 8 hours***** of toxicity that must elapse 2 hours before sunrise.)
  - Example: Mar. 1, 2009, sunrise is at 6:16 a.m., sunset is at 5:46 p.m. Begin application at 6:46 p.m. (1 hour after sunset). Finish by 8:16 p.m. to allow 10 hours for residual toxicity to wear off 2 hours before sunrise at 6:16 a.m.
- Applications may be made to crops, blooming or not, when the temperature is less than 55º F. and will remain below 55º F. for 8 hours following application completion.

Reasoning

According to DPR's ENF 08-28, these abamectin products *virtually* cannot be used without being in violation of the label or risking bee poisoning. Any bees, physically present, visiting the treatment area for any reason prohibits use. Even if bees are not physically present, the labeling statement prohibits applications during bee visitation periods or when residual toxicity will extend into a bee visitation period. According to 3 CCR 6650, bees are active from two hours before sunrise to one hour after sunset and when the temperature is ≥ 55ºF. The likelihood of bees being present in an avocado grove during the day *nearly* eliminates the possibility of making treatments during the day when temperatures are ≥ 55º F. Compounding that problem, uneven terrain severely limits the ability to make applications at night or dusk. In order to reduce the risk of bee poisoning, applications should be made at night or when the temperature is less than 55º F. and the residual toxicity must wear off during that same bee inactivity period. With a recommended 8 hours* residual toxicity for these materials, any application that is made at night, unless made very quickly, will extend at least partially into the next bee activity period.

*** 8 hours -** According to the Pacific Northwest Extension publication, "How to Reduce Bee Poisoning from Pesticide," (PNW 591, Dec. 2006 ed.) abamectin products applied at 0.025 lb/acre or less are toxic for 8 hours. Furthermore, residues typically remain toxic to bees *at least twice as long* when temperatures are unusually low or on nights when dew is present. For local recommendations to reduce bee poisonings, contact a licensed Pest Control Advisor.

Other Information - Disclaimer

Always read and follow the label. Sunset and sunrise times will be those listed in the local newspaper. For the purposes of interpreting bee protection statements there is no difference between ground and aerial applications; however, in general, ground applications are less hazardous to bees due to exposure potential. Any use of Lannate requires a restricted materials permit from the county agricultural commissioner. Aerial applications of abamectin products to avocados in San Diego County require a restricted materials permit from the county agricultural commissioner. This San Diego County requirement is designed to ensure safe use of this material when applied aerially. Supporting documents noted in this letter may be found at our website: http://www.sdcounty.ca.gov/awm/